

ABSTRACT OF THE DISCLOSURE

The superfinishing apparatus according to the present invention includes a frame 51 for holding the entirety of the apparatus, a cam shaft 52 attached to the frame 51 so as to rotate
5 freely, first and second eccentric cams 53, 54 which are attached to the cam shaft 52 and rotate with a phase difference of 180 degrees therebetween, a first vibrator 55 having a polygonal shape in its section which moves in a sliding manner in accordance with the rotation of the first eccentric cam 53, a second vibrator
10 57 having a polygonal shape in its section which is disposed so as to oppose to the first vibrator 55 through the cam shaft 52 and moves in a sliding manner in accordance with the rotation of the second eccentric cam 54, air bearings 59, 60 for supporting the first vibrator 55 and the second vibrator 57, and a
15 superfinishing stone 61 attached to the first vibrator 55 or the second vibrator 57.